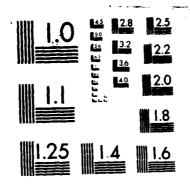
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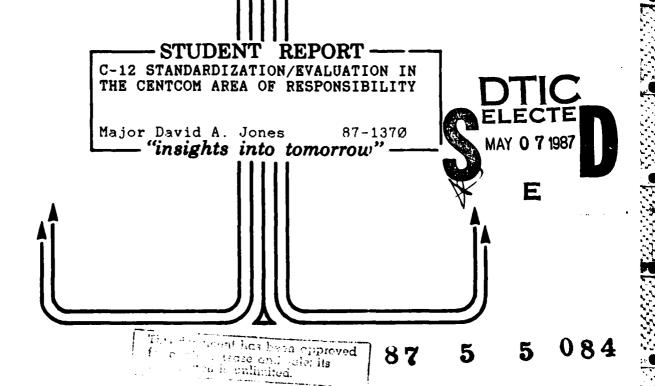
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REPORT NUMBER

87-1370

TITLE

C-12 STANDARDIZATION/EVALUATION IN THE CENTCOM AREA OF RESPONSIBILITY

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Submitted to the faculty in partial fulfillment of requirements for graduation.

AIR COMMAND AND STAFF COLLEGE AIR UNIVERSITY MAXWELL AFB, AL 36112

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PREFACE

This staff analysis addresses a problem identified by the USCENTCOM/IG in 1983. The problem still doesn't have a permanent That problem is CENTCOM doesn't provide standardization and evaluation (stan/eval) guidance for the C-12 units in its Area of Responsibility (AOR). The C-12s located around the world belong to MAC or are owned by AFLC and used by Defense Attache Offices (DAO) or Security Assistance Offices (SAO). CENTCOM is concerned with the DAO and SAO airplanes. A general outline on the C-12 aircraft, mission, and unit manning is found in chapter one. Chapter two discusses how stan/eval and training are currently being accomplished. Ideas on how to save money are outlined in chapter three. Finally, chapter four gives options and recommendations for C-12 program managers to pursue in seeking a permanent solution to the stan/eval problem. stan/eval unit presence in the AOR is recommended.

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ABOUT THE AUTHOR

Major David A. Jones is attending Air Command and Staff College. He is a Squadron Officer School graduate with a BS in Biology from the University of Tampa and a MA in Public Administration from Golden Gate University. An Army ROTC graduate, he has served as a base commander's executive officer at MacDill AFB, FL; an Air Force ROTC instructor at Manhattan College in New York City; and, a C-141 Special Operations Low Level (SOLL I) instructor pilot and tactics planner for the 438 MAW at McGuire AFB, NJ. His last assignment was with the United States Military Training Mission to Saudi Arabia (USMTM-SA) in Dhahran. There he served as Chief of the Aviation Division and the only C-12 flight examiner in the CENTCOM Area of Responsibility (AOR).

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REPORT NUMBER 87-1370

AUTHOR(S) MAJOR DAVID A. JONES, USAF

TITLE C-12 STANDARDIZATION/EVALUATION IN THE CENTCOM AREA OF RESPONSIBILITY

- I. <u>Purpose:</u> Determine who should perform the standardization and evaluation functions for CENTCOM AOR assigned C-12 units.
- II. <u>Problem:</u> During an inspection of USMTM in early 1984, the CENTCOM/IG discovered that CENTCOM AOR C-12 units were still being operated under USAFE rules. He reported that there was no CENTCOM documentation supporting this arrangement. CENTCOM/J3, in answering the IG report, stated that CENTAF was working on a MOA with USAFE to continue C-12 standardization and evaluation functions in the short-term while working on a long-term solution to the problem. His long-term solution was for CENTAF to develop C-12 expertise and become directly involved in the stan/eval function. The long-term solution is still not in effect.
- III. <u>Data:</u> There are several ways to perform the stan/eval function for CENTCOM AOR assigned C-12 units. One way is to leave things the way they are and another is to have CENTAF/DOV attempt to do it from the states. MAC could assume worldwide responsibility for C-12 stan/eval if they were given the three manpower authorizations held by USAFE, USAFSO, and PACAF. However, this would limit DAO/SAO mission flexibility. DIA and DSAA could work with the MAJCOMs and develop joint Tactical Air Forces

CONTINUED

(TAF) regulatory guidance for worldwide control of the 35 air-plane C-12 fleet. An annual savings of \$7,600 can be achieved if the function is moved from Germany to Saudi Arabia. Additional savings are possible through a joint initiative with the Army and possibly the Navy for civilian contract of initial C-12 flight training. This would eliminate MAC's requirement to maintain two C-12As and the aircraft could then be assigned to an AOR unit. Instructor Pilot training could be accomplished in-theater if a stan/eval section is in the AOR.

- IV. <u>Conclusion</u>: CENTAF can provide the impetus to revamp the entire DIA/DSAA C-12 stan/eval program while saving USAF dollars if they move into the AOR. CENTCOM should direct CENTAF to coordinate with the Air Staff, DIA, DSAA, MAC, and USAFE to implement the following recommendations:
 - 1. Establish a CENTAF/DOV section in Dhahran to provide stan/eval programs for CENTCOM and EUCOM AOR assigned C-12 units.
 - 2. Develop TAF regulations to standardize C-12 programs around the world.

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- 3. Centralize flight records and publications accounts for all C-12 units.
- 4. Pursue a joint contract with the Army and Navy for initial C-12 flight training.
- 5. Provide Instructor Pilot training programs in the theaters.
- 6. Change AFR 60-1, para 2-16c, to reflect current policy regarding DIA and DSAA assets.

GLOSSARY

AFLC - Air Force Logistics Command AOR - Area Of Responsibility BASI - Beech Aerospace Services Inc CENTAF - Central Command Air Force Component CENTCOM - Central Command COMPWG - Composite Wing DAO - Defense Attache Office DIA - Defense Intelligence Agency DO - Director of Operations DOV - Director of Stan/Eval DSAA - Defense Security Assistance Agency EUCOM - European Command FMS - Foreign Military Sales IG - Inspector General ILSP - Integrated Logistics Support Plan IP - Instructor Pilot JCS - Joint Chiefs of Staff J3 - Director of Operations MAAG - Military Assistance Advisory Group MAC - Military Airlift Command MAJCOM - Major Command MC - Mission Capable MOA - Memorandum of Agreement MOU - Memorandum of Understanding OMC - Office of Military Cooperation OSA - Operational Support Airlift PACAF - Pacific Air Forces PRP - Programs and Evaluation SAC - Strategic Air Command SALC - Sacramento Air Logistics Center SAO - Security Assistance Office SEFE - Standardization/Evaluation Flight Examiner TAC - Tactical Air Command USAFE - United States Air Forces Europe USAFSO - United States Air Forces South USMTM - United States Military Training Mission

Chapter One

C-12 BACKGROUND, MISSIONS, AND MANNING

C-12 BACKGROUND

C-12A/D aircraft were purchased by the Air Force to replace an aging fleet of C-47s, C-54s, and others and thereby reduce overall flight operating costs for Defense Attache Offices (DAO) worldwide. Fourteen C-12As were bought in 1973, sixteen more in 1976, and six C-12Ds were delivered in 1984 (1:8,34). One of these airplanes was lost in a 1984 crash with a helicopter in Turkey. The remaining 35 C-12A/Ds currently support Security Assistance Organizations (SAO) in addition to DAOs (42:--).

The C-12 is a military version of the ubiquitous Beech A200 Super King Air. Army, Navy, and Marine models are similar to the Air Force C-12A. Model differences are due to a variety of avionics, instrumentation, engine, propeller, and support system peculiarities (29:--). The cost efficiency, maintenance reliability, and operational capability of the Super King Air were driving factors in MAC's selection of a modern version of the C-12 for it's Operational Support Airlift (OSA) mission. The C-12F and C-21 replaced the T-39 OSA mission in 1984 (38:--).

Super King Airs are outstanding support aircraft for SAOs, DAOs, and MAC. The C-12A is a high performance, fixed wing. T-tail, pressurized, twin engine turboprop, passenger and cargo carrying aircraft. It easily operates from 4000 foot airstrips carrying up to eight people, 2100 pounds of cargo, or a combination of both. It cruises at 230 knots true air speed and, with auxiliary fuel tanks, has a 1400 nautical mile range (1:8). This range allows pilots to fly unrefueled from Cairo, Egypt to Bahrain in about five hours. The C-12 operational capabilities are matched by an outstanding maintenance "vstem.

Sacramento Air Logistics Center (SALC) at McClellan AFB provides logistics management for the USAF C-12 fleet. They manage a fixed price Logistics Support Contract (LSC) with Beech Aerospace Services, Inc (BASI). All supplies and maintenance for the C-12s are provided by BASI contractors who must maintain an 80% Mission Capable (MC) rate. The presence of King Airs around the world allows BASI technicians to maintain MC rates of 95+% in

AGR	LOCATION	TYPE	NUMBER	USER
CENTCOM CENTCOM CENTCOM CENTCOM CENTCOM CENTCOM	DHAHRAN, SAUDI ARABIA RIYADH, SAUDI ARABIA ISLAMABAD, PAKISTAN MOGADISHU, SOMALIA KHARTOUM, SUDAN CAIRO, EGYPT	Ď	2 1	DSAA DIA DIA/DSAA DIA/DSAA DSAA DIA/DSAA
EUCOM EUCOM EUCOM EUCOM EUCOM EUCOM EUCOM	KINSHASA, ZAIRE ABIDJAN, IVORY COAST	D A	1 1 1 1 1 1 2	DIA DIA/DSAA DIA DIA DSAA DIA DIA/DSAA
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PACOM PACOM PACOM PACOM	BANGKOK, THAILAND	A A A	2 2 1 1	DIA/DSAA DIA/DSAA DIA/DSAA DIA

Note 1 - MAC maintains C-12F units at: Ramstein AB, Germany Elmendorf AFB, Alaska Osan AB, Korea Kadena AB, Okinawa Clark AB, Phillipines

Note 2 - Theater C-12 Stan/Eval sections are located at:
Ramstein AB, Germany
Howard AFB, Panama
Clark AB, Phillipines

Note 3 - Two C-12As are used for crew training at Andrews AFB.

Table 1. Theater Assigned C-12 Locations

some areas (42:--). At least one BASI technician is assigned to each C-12 beddown base in support of the unit mission (1:12).

Ten of the 33 theater assigned C-12A/Ds (see table 1) are located in the USCENTCOM Area of Responsibility (AOR) (1:34). The United States Military Training Mission to Saudi Arabia (USMTM-SA) operates four Defense Security Assistance Agency (DSAA) controlled aircraft; making it the largest SAO OSA contingent in the world. Two aircraft are used by DSAA and Defense Intelligence Agency (DIA) personnel in Pakistan (DIA actually controls the use of DAO aircraft). DIA maintains a plane in Riyadh, Saudia Arabia and one in Somolia. DSAA has a plane in Sudan and shares one with DIA in Egypt. These aircraft coupled with those in the rest of Africa comprise almost half of the theater assigned C-12A/Ds used to support DAO and SAO missions (29:--).

MISSIONS

Missions are basically the same for all DAO units but vary for SAO organizations. The DIA mission of DAOs is classified and will not be discussed in this paper. Unclassified missions for DAOs include: transportation of ambassadors, embassy staff and visiting government officials; theater orientation; proficiency flying; and, currency or upgrade training (29:--). SAO missions are unit unique but include the unclassified missions mentioned above. They support the administration of US military security assistance programs designed to improve host nation security Small units like the Office of Military Cooperation (OMC) Cairo do little more than personnel transportation, training, and proficiency flying. By contrast, USMTM-SA operates what amounts to a regional airline for US government agencies throughout the Kingdom of Saudi Arabia and Middle East. It's integral aviation division flies a twice daily passenger and distribution shuttle between Dhahran and Riyadh. A daily cargo mission is also flown to one of the unit's remote sites. missions move passengers, cargo (supplies, equipment, and BX goods), distribution, mail, and commissary goods. An aerovac kit is also maintained for an air ambulance role and special missions are flown throughout the AOR in support of senior US government officials (29:--).

Mission suppo t capability is dependent on the number of flying hours available to the unit. DSAA and DIA pay for and allocate flying hours to units. Saudi Arabia has the largest Foreign Military Sales (FMS) program in the world and so USMTM-SA flies 2900 hours annually or almost 20% of the total USAF 15,500 C-12A/D flying hour contract. Smaller units may fly less than 10% of USMTM's hours but end up spending a greater percentage of their time flying currency missions. The remaining time is flown

on an as-required basis on mission types previously listed (42:--). Mission capability is also dependent on unit manning.

MANNING

Manning at each beddown base is as varied as aircraft as-USMTM-SA employs six full-time signment and unit missions. pilots who average 90-100 flying hours per month. They are predominately young captains with previous SAC or MAC aircraft commander experience in another weapons system. These pilots are highly proficient and contrast other pilots flying the C-12A/D. Most pilots in other units around the AOR are part-timers. are normally Army, Navy, and Air Force field grade officers who have primary jobs other than flying. Pilot-rated colonels and. in the case of USMTM, a major general normally fly the aircraft with an Instructor Pilot (IP). Two current pilots are required to crew the C-12 and IPs at the unit level help keep the others Some small units (like Somolia's) have only four pilots current. with no IP assigned (29:--).

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Chapter Two

CURRENT STANDARDIZATION/EVALUATION PROCEDURES

WHY USAFE CONTROL?

Despite mission and manning differences, all ten C-12s in the CENTCOM AOR are flown under USAFE standardization and evaluation rules. This is mandated by AFR 60-1 and dates to 1974 when C-12s were introduced to the EUCOM theater (8:18). Paragraph 2-16c of AFR 60-1 states:

For Military Assistance Advisory Group (MAAG), mission, and Defense Intelligence (DIA) aircraft and aircrews:

assigned to the theater air component commander in which they are geographically located. Support aircraft for defense attaches are assigned to HQ AFLC and placed on loan to the DIA. The using organizations, US MAAG, mission, and defense attache offices must comply with the theater command air rules and regulations that pertain to aircraft operations, crew qualifications, currency, training, and evaluation requirements. Operational control (as it pertains to the missions and purposes for which these aircraft are operated) is kept by either the unified command or DIA. Operational control and scheduling of aircraft remains with either the MAAG. mission, or DIA.

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(2) Theater commands make command policies that pertain to MAAG, mission, or DIA aircraft operations and aircrew training, qualification, and evaluation according to HQ USAF guidance and theater requirements.

A message (23:3) from HQ USAF/PRP to all concerned states: "Command of assmt for all C-12A/D acft supporting SAO's will be standardized to AFLC just as it is for all C-12A/D acft supporting DAO's." While this message lumps SAO (i.e. MAAG or mission) aircraft with DAO aircraft, it doesn't show why USAFE is still performing the stan/eval function for CENTCOM assets.

It appears that support airlift management was an area that fell through the crack when CENTCOM was carved out of EUCOM and PACOM theaters in 1983 (17:1). The oversight was noticed by the

EVENT	FREQUENCY (Semiannual/Quarterly/Monthly)			
	USAFE	MAC	TAC	
SORTIE	12/6/-	12/6/1	12/-/-	
TAKEOFFS (Night)	12/6/- * 2/-/-	12/6/2 -/-/-	12/-/- * 2/1/-	
LANDINGS (Night)	12/6/- * 2/-/-	12/6/2 2/-/-	12/6/- * 2/1/-	
APPROACHES (Precision) (PAR) (ILS)	-/-/-* 6/3/- -/-/- -/-/-	-/-/2 -/-/- 2/1/- 8/4/-	-/-/- * 6/-/- -/-/- -/-/-	
(Non-Precision) (ASR) (VOR) (ADF) (TAC)	6/3/- -/-/- -/-/- -/-/-	-/-/- 2/1/- 2/1/- 2/1/- 2/1/-	6/-/- -/-/- -/-/- -/-/-	
LPS (Bold Face) (Missed Approach) (Circle) (Holding) (Inst Departure) (Max Effort T/O) (Min Run LND) (Eng Out G/A) (Eng Out LND) (VFR LND)	-/-/- 6/3/1 -/-//-//-/- 2/1/- 2/1/- 2/1/- 2/1/-	2/1/- 2/1/- 2/1/- 2/1/- 2/1//-//-/- 2/1/- 2/1/- 2/1/-	2/1/- 2/1/- 2/1/- 2/1/- 2/1/- 2/1/- 2/1/- 2/1/- 2/1/- 2/1/- 2/1/-	

^{* -} Required every 45 days.

Table 2. Currency Requirements

CENTCOM IG during his 1983 inspection of USMTM and listed in his formal report as follows:

Presently, USAFE/DOVS is providing USMTM flight management guidance and evaluation IAW USAFE Regs 55-30, 60-1 and 60-4. There is no USCENTCOM documentation of this arrangement. CENTCOM needs to establish SAO C-12 policy guidance and management responsibilities and have them officially promulgated. As a minimum, the OPRs for flight operation guidance, standardization evaluations and total resource management inspections need to be tasked.

The CENTCOM Director of Operations stated "That USCENTAF [the Air Force component] establish a long-term solution to manage both the standardization/evaluation and resource management functions. While an interim solution is a MOA with USAFE to perform these functions, USCENTAF must become directly involved in these functions over the long term" in his response to the IG report (14:2). The "long term" solution has yet to be addressed but the USAFE/USCENTAF MOU was executed by TAC headquarters on 28 June 1984 (14:1).

AIRCREW TRAINING & EVALUATION REQUIREMENTS

The MOU legitimized USAFE's control of CENTCOM AOR continuation flight training, standardization, and evaluation support as outlined in AFM 51-44 and AFR 60-1. While USAFE is responsible for management of qualified C-12 pilots, AFM 51-44 tasks MAC with the responsibility of initial aircrew training (7:1).

Pilots enroute to theater DAO or SAO assignments receive a three week course on how to fly the C-12. The MAC-managed training includes one week of contract simulator and ground training in Alabama and two weeks of flight training at Andrews AFB. MD. The proximity of Andrews to other Air Attache training programs in the Washington, DC area allows maximum flexibility for student scheduling. Pilots graduate from this course as First Pilots (FP) with only 10 C-12 flying hours and are sent to their next duty station for theater standardization training (29:--).

USAFE mandates ground, theater indoctrination, currency, and upgrade training through an assortment of regulations and supplements. Only two of these, USAFER 55-30 and USAFE Sup 1 to AFR 51-44, specifically deal with the C-12 (9:--; 11:--); the rest are fighter oriented with exceptions inserted for C-12 operation (10:--; 12:--). Ground training is general while theater indoctrination provides the newly assigned pilot a chance to visit most of the airfields he will operate from. Currency requirements are compared to those of MAC and TAC in table 2 (9:4: 2:2;

5:4). Upgrade training to Aircraft Commander (AC) is an in-unit process which doesn't require a checkride. Instructor Pilot (IF) upgrade training is difficult to accomplish in the field. Units usually try to send a trainee back to Andrews AFB for a one week IP course. The trainee must receive a checkride from a USAFE Flight Evaluator (SEFE) before he is considered USAFE qualified (13:4-1). This will normally take place in his unit and hopefully coincide with a scheduled evaluation visit.

USAFE/DOV visits each unit every 15 to 17 months to fulfil aircrew standardization/evaluation program requirements outlined in USAFER 60-2. A two man team administers written exams and flight evaluations (which expire every 17 months), and inspects safety, maintenance, and publications control procedures (12:21). The team normally visits two to three units per trip. Inspection reports are sent to the units and CENTAF/DO for review. Colonel Kersey, USAFE/DOV, believes there has to be a better way of administering the program (32:--). He isn't alone. Chapter three outlines the costs involved, other command programs, and thoughts of those associated with C-12 management.

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Chapter Three

EXPENSES, OTHER PROGRAMS, AND THOUGHTS

EXPENSES

The FY 88 trillion dollar budget, huge federal deficit, and current shortfall of PCS funds are strong motivation for military managers to seek the most cost efficient method of mission accomplishment. This chapter will review the costs of a C-12 stan/eval operation, look at how other commands perform that function, and finally, outline the thoughts of those involved in C-12 program management.

The expenses of a C-12 stan/eval unit can be broken down into three areas: personnel, TDY, and office costs. A personnel cost comparison for a two man (SEFE and Operations Administration NCO) unit located at USAFE Headquarters or in the CENTCOM AOR is shown in Table 3 (25:--; 27:--; 34:--; 37:--; 40:--; 41:--). (Dhahran is used only as a sample location). Table 4 depicts inspection cycle travel expenses to all C-12 units in Africa and the Middle East (37:--; 24:--). Table 5 provides an overall look at unit costs and shows that moving the operation to Dhahran would be cost efficient.

Command-level stan/eval program savings aren't the only savings incurred in a move to the CENTCOM AOR. Units that need stan/eval support at times other than their scheduled inspection must pay TDY expenses for the visit (32:--). Visits may be needed due to extended grounding of unit aircraft or pilots. Requalification checks, IP upgrades, and emergency training requirements are driving factors for the extra support. provided two requalification checks (one in April 1986 and another in June 1986) for OMC Cairo pilots because the USAFE SEFE was unable to schedule the trips. Total cost for each trip was about \$300--significantly less than airfare required for a USAFE SEFE visit. The USMTM SEFE has transferred and there is no other CENTCOM SEFE. Determining operating unit savings is difficult to do as this support is not planned by the unit, but may be significant when coupled with command-level savings (29:--). search for a less expensive way to do business necessitates a look at how other commands provide stan/eval support.

EXPENSES	LOCATION			
	RAMSTEIN A	B. GERMANY	DHAHRAN, S	AUDI_ARABIA
	0-4	<u>E-7</u>	<u>0-4</u>	E-7
HHG Shipment	\$ 6,264	\$ 4,437	\$ 4,918	\$ 3,279
Airfare	\$ 1,500	\$ 1,500	\$ 4,500	\$ 4,500
One Way Total	\$ 7,764	\$ 5,937	\$ 9,418	\$ 7,779
Roundtrip PCS	\$15,528	\$11,874	\$18,836	\$15,558
Per PCS Year	\$ 5,176	\$ 3,958	\$ 9,418	\$7,779
Pay	\$86,273	\$56,962	\$84,249	\$54.566
Per Year	\$91,449	\$60,920	\$93,667	\$62,345
Total Personnel	\$152	, 369	\$156	,Ø12

Note 1 - Based on maximum authorized entitlement for member plus three dependents to and from Maxwell AFB, AL.

Note 2 - Based on standard three year tour in Germany and two year tour in Saudi Arabia.

Note 3 - Based on maximum pay and allowances including COLA. RENTPLUS, retirement accrual, and MAJCOM support costs.

Table 3. Personnel Cost Comparison

FRANKFORT TO/FROM	COST
DHAHRAN - RIYADH - ISLAMABAD	\$ 7,260
CAIRO - KHARTOUM	\$ 5,200
KINSHASA	\$ 4,736
RABAT - MONROVIA - ABIDJAN	\$ 5,627
PRETORIA - MOGADISHU	\$ 6,143
Total For 15 Month Cycle	\$28,966
Yearly Cost	\$23,173
DHAHRAN TO/FROM	
ISLAMABAD - RIYADH	\$ 928
KHARTOUM - MOGADISHU	\$ 2,242
CAIRO - RABAT - MONROVIA - ABIDJAN	\$ 6,158
KINSHASA - PRETORIA	\$ 5,520
Total For 15 Month Cycle	\$14.848
Yearly Cost	\$11,878
Note 1 - Cost reflects sample USAFE/Deprofile with basing at Ramstein AB or	
Note 2 - Visits to Madrid, Athens, and not addressed due to MAC channel avai	

inspectors estimated to be the same for both locations.

Note 3 - \$14,000 annual per diem for USAFE

Table 4. Inspection Cycle Travel Costs

to both locations.

EXPENSES	RAMSTEIN	DHAHRAN
PERSONNEL 1	\$152,369	\$156,012
TRAVEL ²	\$ 23,173	\$ 11,878
PER DIEM	\$ 14,000	\$ 14,000
OFFICE SUPPLIES (estimated)	\$ 1,500	\$ 1,500
TOTAL	\$191,042	\$ 183,39Ø

DIFFERENCE

\$7,652

Note 1 - From Figure 3.

Note 2 - From Figure 4.

Table 5. Stan/Eval Unit Cost Comparison

OTHER PROGRAMS

Three unified commands (EUCOM, SOUTHCOM, and PACOM) and MAC utilize OSA aircraft. PACOM C-12 stan/eval will not be addressed due to its similarity to SOUTHCOM's program. Differences of the other command programs are outlined below.

MAC is the specified airlift command and the training command for all DIA and DSAA crews (4:3). Its stan/eval program and regulations are geared for airlift operations worldwide. The only C-12 SEFE at HQ MAC visits units from Ramstein AB to Clark AB on Additional Crew Member (ACM) orders to eliminate unit travel expenses. SEFEs are located at Ramstein AB, Scott AFB, and Yokota AB to provide unit stan/eval support (3:--; 38:--).

MAC maintains a special relationship with the EUCOM Flight Operations Division. The joint unit operates its MAC-owned C-21s under MAC and EUCOM rules. MACR 55-121 outlines general C-21 operations with waivers for EUCOM operations. EUR 55-4 lists deviations from the MAC program and authorizes C-12 and C-21 crews to interfly. MAC doesn't provide a formal stan/eval inspection of the unit but performs a staff assistance visit in conjunction with the Ramstein unit inspection. The report is

forwarded to the EUCOM/J3. MAC pays for the TDY, landing fees, and aircraft operations of EUCOM C-21 crews (36:--). By contrast, TAC only provides stan/eval guidance for SOUTHCOM assigned C-12s.

TAC doesn't have a C-12 SEFE at the headquarters. The TAC evaluator is at Howard AB and attached to the 24 COMPWG. He develops C-12 guidance and performs stan/eval procedures in his one-man operation. He oversees eight DAO and SAO sites and provides in-theater IP training in addition to writing unit reports (6:--; 31:--).

Each of the commands has a different way of managing their stan/eval programs. Table 2 contrasts MAC, TAC, and USAFE currency requirements. The people managing these C-12 programs have different ideas on how CENTCOM could provide stan/eval in its AOR.

OTHER THOUGHTS

Those associated with the C-12 program tend to think about program management responsibility in one of four ways: it's MAC's problem, the theater commander's problem, DIA and DSAA's problem, or not currently a problem.

The idea that MAC should assume worldwide responsibility for C-12 operations was presented by TAC and CENTAF in 1984. The TAC/DO convinced the USAFSO/DO that MAC could manage the C-12 program much more efficiently (15:--; 21:-+). At the same time, CENTAF/DOV looked to MAC when tasked by the CENTCOM/J3 to develop a stan/eval program for its AOR assigned units (18:--; 20:--). MAC told TAC and CENTAF that they "didn't want the C-12A/D responsibility but if forced would want USAFE and PACAF C-12 manpower authorizations" (19:--). USAF/XOO and PRP settled the dispute in a message (23:5) stating:

C-12A/D stan/eval matters will also continue in near term (FY 85-86) to remain responsibility of AF component cmdr of unified cmd responsible for theater in which the SAO/DAO is located. However, HQ USAFE, PACAF, or TAC (for USCENTAF) may submit an FY 87 POM initiative to consolidate their C-12A/D stan/eval functions w/MAC's C-12F stan/eval function where potential duplication may exist.

CENTAF/DOV would still like to have MAC assume the responsibility and MAC still resists unless they get the USAFE, PACAF, and USAFSO manpower authorizations (39:--; 38:--). TAC and USAFSO now believe theater commanders should provide stan/eval procedures for their units (30:--; 31:--).

Theater stan/eval programs could be improved according to Maj Kammler of TAC and Maj Kastan of USAFSO. Tactical Air Forces (TAF) regulations could be developed in coordination with DIA and DSAA which would standardize the C-12A/D operations worldwide. These multi-command regulations are already in effect for other weapons systems (30:--). Another initiative could be to consolidate Army and Air Force initial C-12 training. Flight training could be added to the current civilian contract ground and simulator training. This would eliminate the need for MAC to conduct flight training at the 89 MAW and allow their two C-12s to be relocated to a theater (31:--).

DIA's Maj Unser believes in maintaining theater-level stan/eval with TAF regulations, but there are those, like Col Kersey of USAFE/DOV, who believe C-12 stan/eval is a DIA/DSAA problem. The USAFE SEFE is maintaining a "ragged edge operation" with an excessive work load and 160-170 days TDY annually just to support DIA and DSAA. Col Kersey is willing to give away the C-12 stan/eval mission if someone wants it and feels that no MAJCOM, except MAC, needs a C-12 evaluator except to support DIA and DSAA (32:--). DSAA personnel point out that there is no one with C-12 operational experience at DSAA and there are no problems with the way the stan/eval program is currently managed (28:--; 35:--).

CENTCOM's Lt Col Lumley is among those who believe there is no problem with how the system currently works. Like DIA and DSAA, CENTCOM doesn't pay anything for USAFE to provide the stan/eval function for AOR units (28:--). The Air Staff's Lt Col Allen maintains a wait-and-see attitude toward C-12 stan/eval. He is the interface between the MAJCOMs, DIA, and DSAA and will make the decisions on any major program changes (26:--).

Chapter Four

OPTIONS, CONCLUSION, AND RECOMMENDATIONS

OPTIONS

Information in the preceding chapters provides an option base for determining who should provide stan/eval management for CENTCOM AOR assigned C-12 units. Pro and con factors are included for each of the following options:

- 1. Do nothing. This option maintains the status quo but fails to provide the long term solution ordered by the CENTCOM/J3 in 1984.
- 2. Have DIA and DSAA develop a worldwide stan/eval program. This option makes sense as DIA and DSAA are the users of the 35 airplane C-12 fleet. They know what missions need to be flown in support of their programs and can tailor stan/eval guidance for maximum mission flexibility. While this technique would provide a long term solution, it is impractical as there are only four people in DIA and DSAA concerned with C-12 management and only one of those is a pilot.
- 3. Have MAC assume stan/eval control of all C-12s. Again, this option makes sense as MAC is the specified command for airlift, maintains a fleet of C-12Fs, and has standardized regulations. This long term solution would allow aircrews to travel free in ACM status on other MAC aircraft. The MAC regulations would restrict the flexibility of DIA and DSAA units and a change to AFR 60-1 would be required.
- 4. Establish a C-12 section at CENTAF/DOV. This option would fulfil the CENTCOM/J3's request for a long term solution and follow guidance in AFR 60-1. Transportation costs, time zone changes and the requirement for additional personnel costs make this an expensive option.
- 5. Establish a CENTAF stan/eval section in the AOR for CENTCOM and EUCOM units. This option gives CENTCOM their own long term solution which is more cost efficient than the present program, provides accessibility of the SEFE to the units, capability for in-theater IP training, and gives the SEFE an

airplane for proficiency flying. On the other hand, the SEFE will be isolated from HQ CENTAF and will be responsible for 14 C-12 units.

CONCLUSION

The C-12 program is a small but vital part of the US military. DAOs and SAOs are scattered throughout the world showing the flag, helping our allies, and providing information for our senior leadership. Each C-12 unit is the responsibility of a unified commander and CENTCOM is the only command which fails to provide stan/eval guidance to its units. The CENTCOM/IG noticed this in 1983 and the CENTCOM/J3 directed CENTAF to become directly involved in a stan/eval program for its assets. This still hasn't happened and USAFE continues to perform the task. CENTCOM should reiterate the J3's direction that CENTAF develop a long term solution for AOR stan/eval.

CENTAF can provide the impetus to revamp the entire DIA/DSAA C-12 stan/eval program while saving USAF dollars if they move into the AOR. AFR 60-1 is out of date with regard to DAO/SAO C-12 aircraft assignment and should be changed. At the Air Staff, Lt Col Allen is working with DIA and DSAA to develop a standardized USAF C-12 program. TAF regulations are in effect for other aircraft and could be used for the C-12. The small size (35 airplanes) of the C-12 fleet coupled with geographic separation of the units lends to centralized administration of flight records and publications accounts. The JCS is looking for ways to save money and a joint service C-12 contract training program may do Army, Navy, and Air Force C-12 pilots are currently trained by MAC. The two aircraft released by MAC could be used in the field for IP training if the joint contract was let. should establish a stan/eval function in Dhahran to support USAFE doesn't want the responsi-CENTCOM and EUCOM AOR units. bility any longer and an annual savings of almost \$8,000 is made with the relocation. TAC and PACAF keep their evaluators in the SOUTHCOM and PACOM AORs. Col Peeke, the Chief of Aviation for OMC Cairo, puts it this way: "CENTCOM has been in existence for four years and I think it is high time for them to assume all of the responsibilities of a unified command, Stan/Eval being one of them" (22:1). The answer to who should perform the stan/eval functions for CENTCOM AOR assigned units is--CENTAF. options are available but not recommended. CENTAF can provide the spark needed to improve the entire C-12 program if they take action on the following recommendations.

RECOMMENDATIONS

- 1. Establish a CENTAF/DOV section in Dhahran to provide stan/eval management of CENTCOM and EUCOM AOR assigned C-12 units.
- 2. Coordinate with DIA and DSAA to develop TAF regulations to standardize C-12 programs around the world.
- 3. Centralize flight records and publications accounts for all C-12 units.
- 4. Pursue a joint contract initial C-12 flight training program with the Army and Navy.
- 5. Provide an in-theater IP training program.
- 6. Change AFR 60-1, paragraph 2-16c(1), to reflect that DIA and DSAA aircraft are assigned to HQ AFLC.

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BIBLIOGRAPHY

REFERENCES CITED

Official Documents

- 1. Air Force Logistics Command. <u>C-12A/D/F Integrated Logistics Support Plan</u>. McClellan AFB, CA: Sacramento Air Logistics Center, 1 May 1985.
- 2. Military Airlift Command. MAC Sup 1/AFM 51-44: C-12 Training. Scott AFB, IL: HQ MAC/DOT, 18 May 1984.
- 3. ----. MACR 55-112: C-12 Airlift Operations. Scott AFB. IL: HQ MAC/DOVI, 18 May 1984.
- 4. ---- MACR 55-189, Vol. I: 89 MAW Airlift Operations. Scott AFB, IL: HQ MAC/DOVF, 15 April 1981.

- 5. Tactical Air Command. TAC Sup 1/AFM 51-44: C-12 Aircrew Training. Langley AFB, VA: HQ TAC/DOVX, 23 July 1984.
- 6. ----. TACR 55-12: C-12 Aircrew Operational Procedures. Langley AFB, VA: HQ TAC/DOVX, 16 May 1985.
- 7. United States Air Force. <u>AFM 51-44: C-12 Aircrew Training</u>. Washington, DC: HQ USAF/XOOTA, 23 April 1984.
- 8. ----. AFR 60-1: Flight Management. Washington, DC: HQ USAF/XOOTD, 28 May 1985.
- 9. United States Air Forces in Europe. <u>USAFE Sup 1/AFM 51-44:</u>
 <u>C-12 Aircrew Training</u>. APO NY Ø9Ø12: HQ USAFE/DOVS,
 11 July 1984.
- 10. ----. USAFE Sup 1/AFR 60-16: General Flight Rules.
 APO NY 09012: HQ USAFE/DOV, 19 February 1986.
- 11. ----. <u>USAFER 55-30: C-12 Aircraft Operations</u>.

 APO NY 09012: HQ USAFE/DOVS, 18 November 1983.
- 12. ---- USAFER 60-2, Vol. I: Aircrew Standardization/ Evaluation Program, Organization and Administration. APO NY 09012: HQ USAFE/DOVT, 15 February 1986.

CONTINUED _

13. ----. USAFER 60-2, Vol. IV: Aircrew Flight Evaluation Criteria. APO NY 09012: HQ USAFE/DOVS, 29 July 1983.

Unpublished Materials

- 14. Beyer, Robert C., Jr., Brig Gen, USAF. "Response to Command Inspection of USMTM, Saudi Arabia." USCENTCOM/J3 Summary Sheet, 28 September 1984.
- 15. Borchert, John A., Col, USAF. "TAC Responsibilities for C-12 Aircraft in South and Central America." TAC/DOV Staff Summary Sheet, 21 June 1984.
- 16. Bredfeldt, Maj, USAF. "C-12 Stan/Eval in the CENTCOM AOR." USAFE/ACC Message, 311705Z Oct 86.
- 17. Hales, J. F., Lt Col, USMC. "C-12 Stan/Eval Matters USCENTCOM AOR." USCINCCENT/J4-7SPP Message, 252040Z May 84.
- 18. Oberle, Joseph L., Lt Col, USAF. "C-12 Stan/Eval Matters USCENTCOM AOR." USCENTAF/DOV Staff Summary Sheet, 2 July 1984.
- 19. ----. "C-12 Stan/Eval Matters." USCENTAF/DOV Staff Summary Sheet, 19 September 1984.
- 20. O'Neill, Dawson R., Col, USAF. "C-12 Stan/Eval Matters USCENTCOM AOR." USCENTAF/DO Message, 1312252 Jul 84.
- 21. Peck, Ronald E., Capt, USAF. "C-12 Flying Program." USAFSO/DO Message, Ø312Ø5Z Jul 84.
- 22. Peeke, John L., Lt Col. USAF. Personal letter to author about C-12 Stan/Eval, OMC Cairo, EG, 11 October 1986.
- 23. United States Air Force. "C-12A/D Aircraft Supporting DIA/DSAA." USAF/PRP/XOO Message, 212330Z Aug 84.
- 24. United States Air Forces in Europe. "C-12 Stan/Eval in the CENTCOM AOR." USAFE/DOVS Message, 110730Z Dec 86.

CONTINUED _

25. United States Air Forces in Europe, "C-12 Stan/Eval in the CENTCOM AOR. USAFE/ACC Message, 3117052 Oct 86.

Other Sources

- 26. Allen, Robert, Lt Col, USAF. Chief, Operational Support Airlift, HQ USAF, Washington, DC. Telecon, 4 November 1986.
- 27. Ballard, Betty. Supervisor, Outbound Traffic, Traffic Management Office, Maxwell AFB, AL. Interview, 22 December 1986.
- Beasley, J. T., Lt Col, USAF. Chief, Organization and Manpower Division, DSAA/PLANS, Washington, DC. Telecon, 20 October 1986.
- 29. Jones, David A., Maj, USAF. Student, ACSC, Maxwell AFB. AL.
- 30. Kammler, Larry R., Maj, USAF. Chief, Tactical Support Division, TAC/DOV, Langley AFB, VA. Telecon, 9 January 1987.
- 31. Kastan, Keith, Maj, USAF. C-12 Flight Examiner, USAFSO. Howard AFB, PN. Telecon, 15 December 1986.

proposes services in proposes services services reserved frequences

- 32. Kersey, Les, Col, USAF. Chief, Standardization/Evaluation Division, USAFE, Ramstein AB, GE. Telecon, 15 December 1986.
- 33. Lumley, James. R., Lt Col, USAF. Chief, Country Branch.
 Security Assistance Division, USCENTCOM, MacDill AFB, Fb.
 Interview, 2 January 1987.
- 34. Middleton, H., Capt, USAF. Budget Officer, USMTM-S... Dhahran, SA. Telecon, 5 December 1986.
- 35. Paris, James G., Budget Analyst, DSAA, Washington, DC. Telecon, 4 November 1986.
- 36. Preston, M. C., Maj, USAF. Operations Officer, Flight Operations Branch, USEUCOM, Vaihingen, GE. Telecon, 14 December 1986.

CONTINUED

- 37. Quinn, Terri, SrA, USAF. Passenger Specialist, Traffic Management Office, Maxwell AFB, AL. Interview, 22 December 1986.
- 38. Ramsey, Alfred, Lt Col, USAF. Chief, Special Missions Division, MAC/DOV, Scott AFB, IL. Telecon, 20 November 1986.
- 39. Robinson, Bobby, Capt, USAF. Chief, Standards Branch. USCENTAF/DOV, Shaw AFB, SC. Telecon, 24 November 1986.
- 40. Scasny, Gary, MSgt, USAF. Chief, Military Pay, Accounting and Finance Office, Maxwell AFB, AL. Interview, 22 December 1986.
- 41. Sherbo, Andy. Maj, USAF. Cost Analysis Officer, USAF/ACCE. Washington, DC. Telecon, 14 October 1986.
- 42. Siefert, Walter. C-12 Program Manager, SM-ALC/MMSG. McClellan AFB, CA. Telecon, 5 December 1986.
- 43. Unser, R., Maj, USAF. Chief, Air Operations Branch, DIA, Washington, DC. Telecon, 14 November 1986.